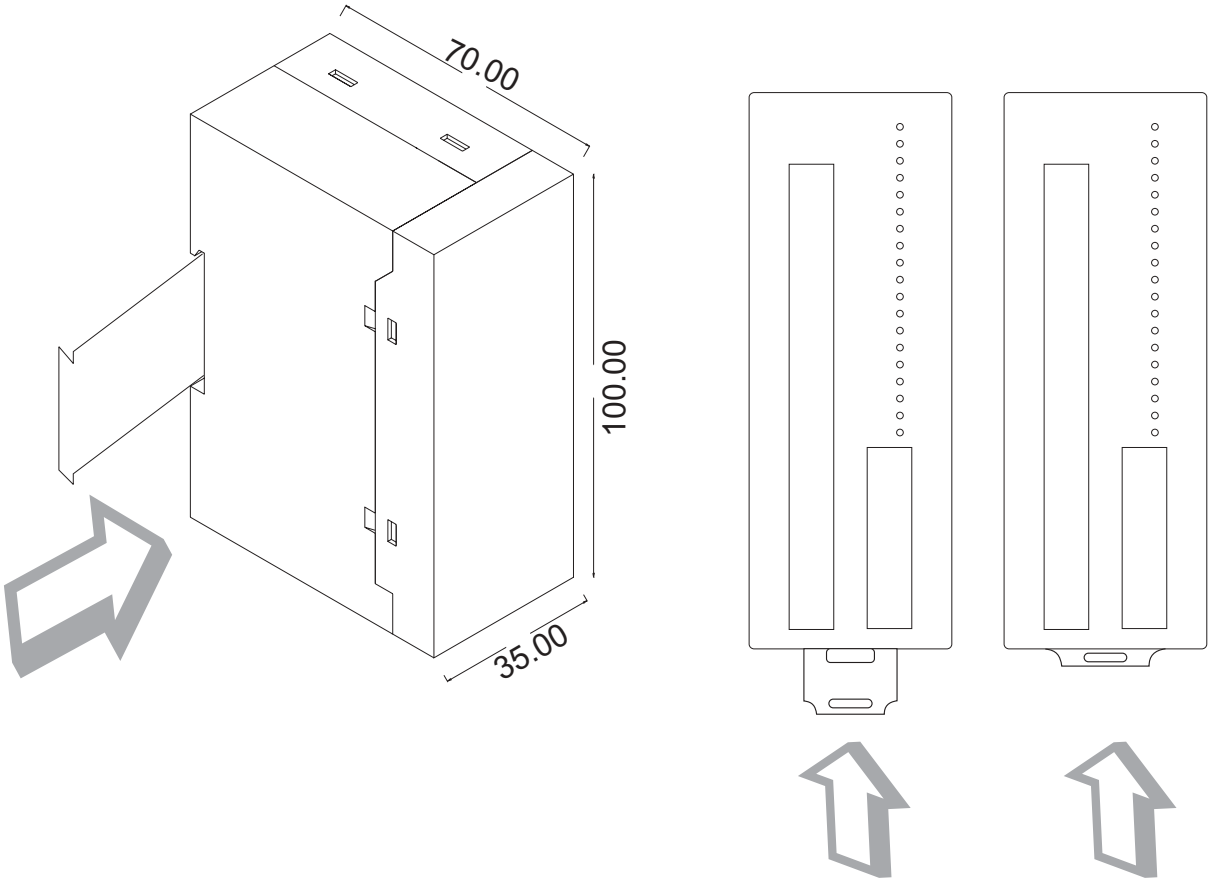
FIOD 0808 Manual

The FIOD series products add digital capability to your PLC / SCADA.

FIOD 0808 model has 8 digital inputs and 8 relay / transistor (PNP/NPN) outputs. The digital inputs and outputs are isolated from the host device. It has one (2 Wire RS485) communication port. The COM port is used to connect any modbus master device (PLC / SCADA / Operator Interface device). This module supports Modbus RTU (Slave) protocol.

Dimensional Details:

FIOD units are shipped with a separate DIN rail plate which can be attached to the unit, if desired. User can use the unit with or without the DIN rail plate. Following sketch shows dimensional details of FIOD with the DIN rail plate.



PLC Communication

The unit supports Modbus RTU (Slave) protocol. Dedicated modbus registers are used for tracking inputs and outputs. Unit scans all the inputs continuously and stores this information into Input register. Also the data is received from the output register and accordingly the digital outputs are set / reset.
The communication parametes and unit address are set by DIP switch.

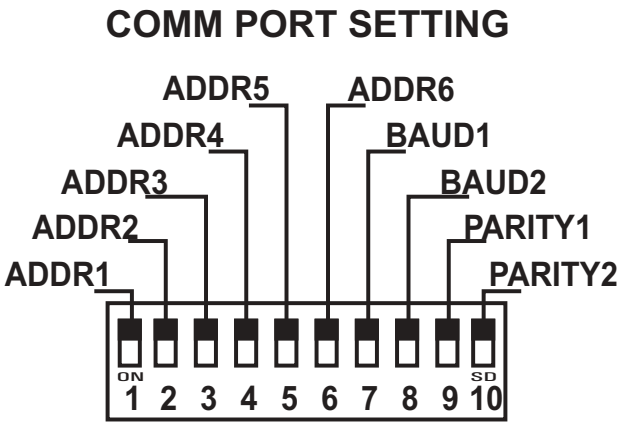
Specifications: -

1.	Power Supply	:	24 VDC +/- 10%
2.	Digital Inputs	:	0 to 5 V DC Low; 12 to 28 V DC High
3.	Digital Outputs	:	For Relay output : 230V AC; 2 Amp. / 30V DC; 2 Amp. Coil Voltage: 24VDC For Transistor output (PNP/NPN): 500 mA; Supply Voltage: 24VDC
4.	Communication Port	:	2 Wire RS-485
5.	I/O Terminals	:	Pluggable terminals.
6.	Operating Temperature	:	$0^{O}C$ to $60^{O}C$
7.	Storage Temperature	:	$-20^{O}C$ to $80^{O}C$
8.	Humidity	:	10% to 90% (Non condensing)
9.	Mounting	:	DIN rail mounting
10.	Dimensions (DIN rail)	:	70 X 100 X 35 mm

Communication Parameters And Modbus Tag Definition

Unit supports MODBUS driver for communication with Master device.

COM Port Setting:



UNIT ID	ADDR6	ADDR5	ADDR4	ADDR3	ADDR2	ADDR1
1 2 . . . 64	0 0 . . . 1	0 0 . . . 1	0 0 . . . 1	0 0 . . . 1	0 0 . . . 1	0 1 . . . 1

BAUD RATE	BAUD2	BAUD1
9600	0	0
19200	0	1
57600	1	0
115200	1	1

PARITY	PARITY2	PARITY1
NONE	0	0
ODD	0	1
EVEN	1	0

The following dedicated modbus registers are assigned to digital inputs and digital outputs.

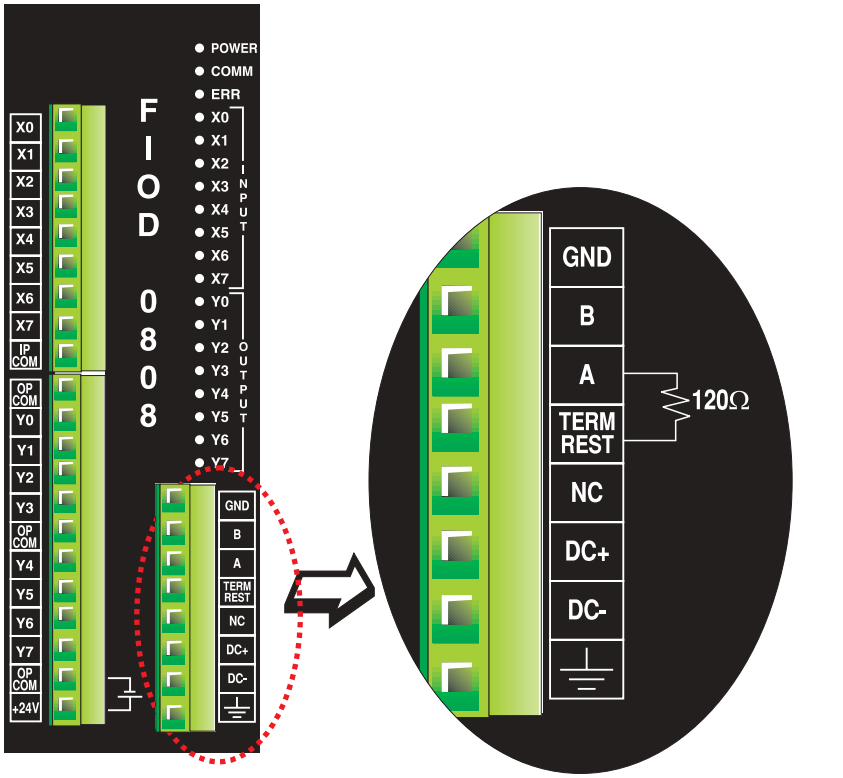
Digital I/P	**MODBUS Tag.**	
	Input Register	**Input Coil**
I/P1 (X0)	40001_0 (Bit 0)	00001
I/P2 (X1)	40001_1 (Bit 1)	00002
I/P3 (X2)	40001_2 (Bit 2)	00003
I/P4 (X3)	40001_3 (Bit 3)	00004
I/P5 (X4)	40001_4 (Bit 4)	00005
I/P6 (X5)	40001_5 (Bit 5)	00006
I/P7 (X6)	40001_6 (Bit 6)	00007
I/P8 (X7)	40001_7 (Bit 7)	00008

Digital O/P	MODBUS Tag.	
	Output Register	Output Coil
O/P1 (Y0)	40065_0 (Bit 0)	1025
O/P2 (Y1)	40065_1 (Bit 1)	1026
O/P3 (Y2)	40065_2 (Bit 2)	1027
O/P4 (Y3)	40065_3 (Bit 3)	1028
O/P5 (Y4)	40065_4 (Bit 4)	1029
O/P6 (Y5)	40065_5 (Bit 5)	1030
O/P7 (Y6)	40065_6 (Bit 6)	1031
O/P8 (Y7)	40065_7 (Bit 7)	1032

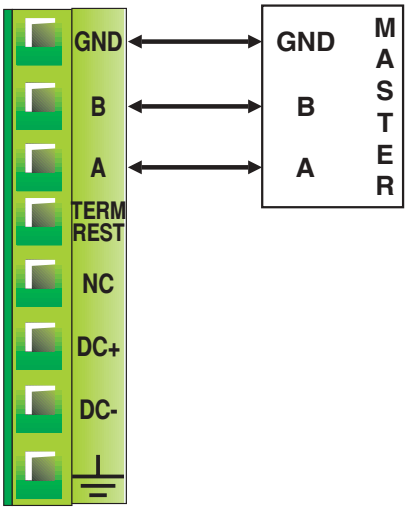
Modbus Tag	Name of the tag	Type	Default	Valid Range	Description
40070	Communication Timeout for own frame	Retentive	0	(1 to 65535) times multiple of 100msec	Holds the communication timeout value. If unit doesn't reveive it's own frame within this timeout period, it declares communication break.
40071	Communication timeout for ideal communication line	Retentive	0	(1 to 65535) times multiple of 100msec.	Holds the communication timeout value. If communication line is completely ideal (No frame from master for other slaves also) within this timeout period, unit declares communication break.
40072_bit0 OR Coil 01137	Selection bit	Retentive	0	1 or 0	If 1, timeout value from 40070 is selected If 0, timeout value from 40071 is selected

Note:
The default timeout is 10sec.
In case of communication break with the host all the outputs are switched OFF after the timeout period is over.

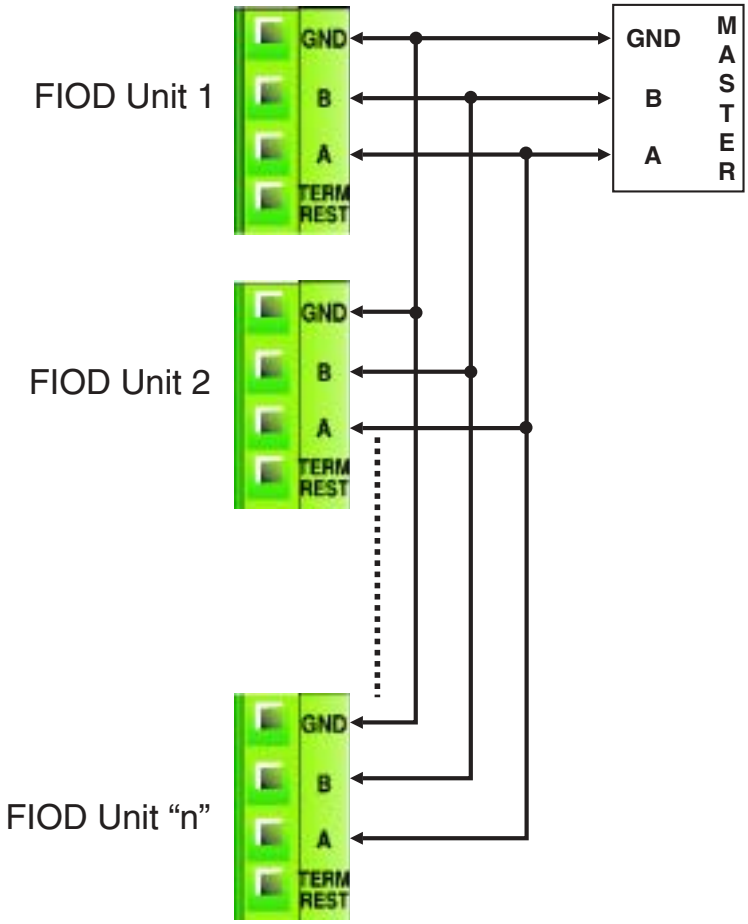
Port Details (2 Wire RS485 Port): -



For using internal termination resistor (120 Ohm),
short "B" and "TERM REST"

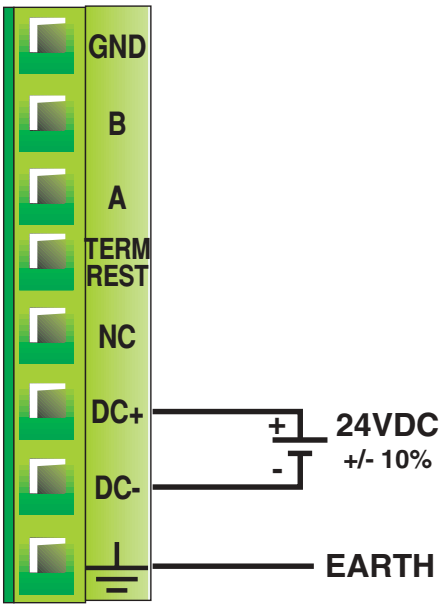


Multidropping connection: -



Note: Where "n" is up to 32. Connecting repeater can increase it to 64.

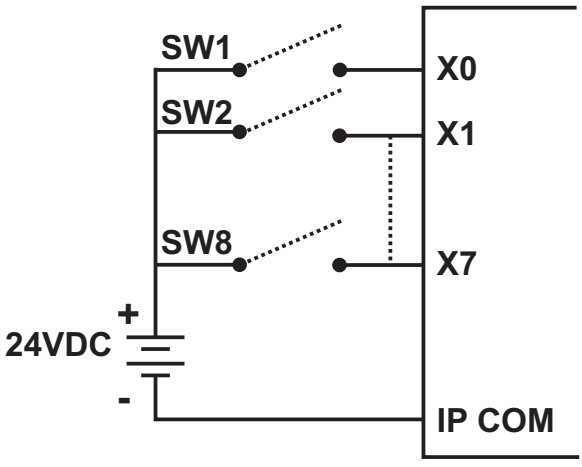
Power Supply Connection: -



Wiring Diagram: -

Digital Inputs should be wired as given below:

Wiring Diagram for testing Digital Inputs

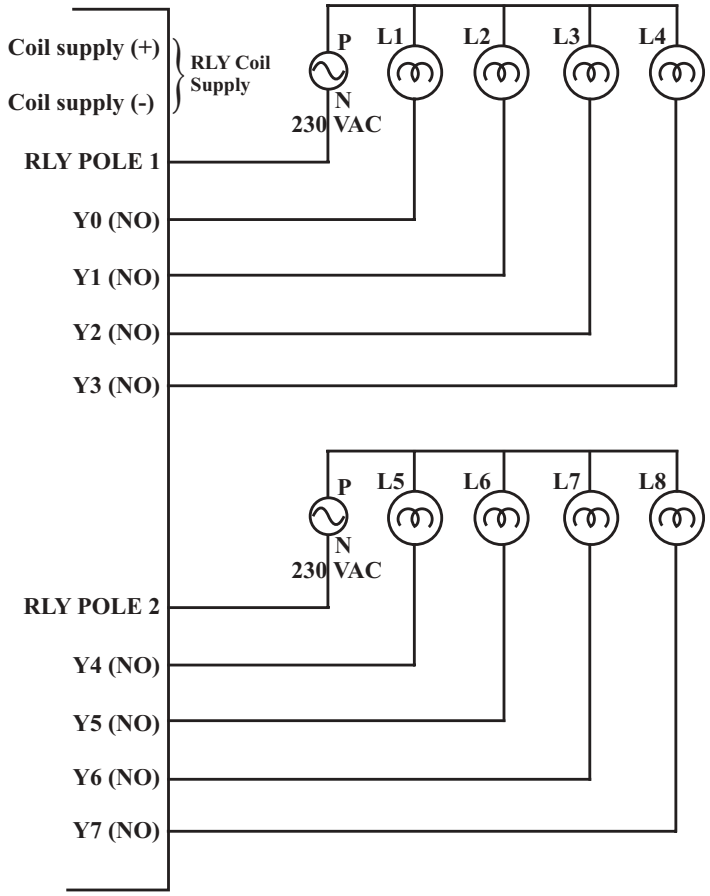


Closing SWx will turn on respective inputs.

Wiring Diagram: -

Relay type Digital outputs should be wired as shown below

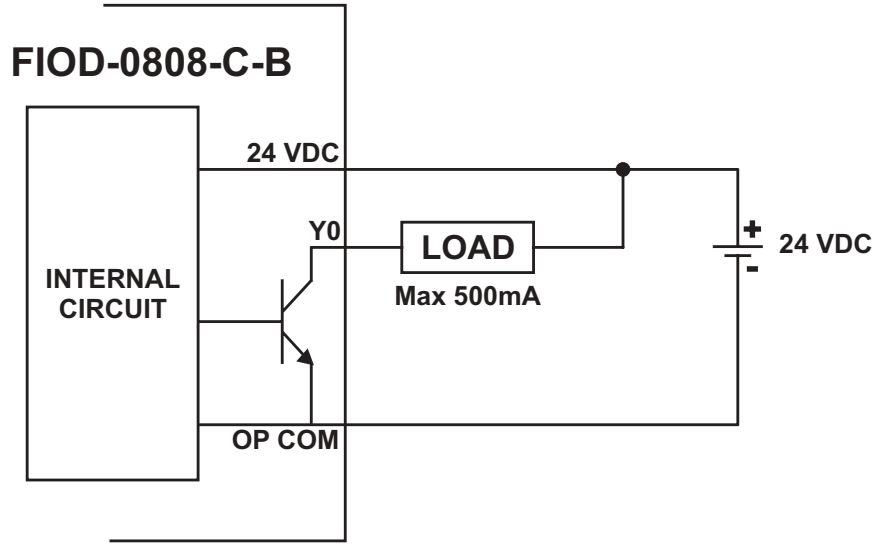
For FIOD-0808-R-B



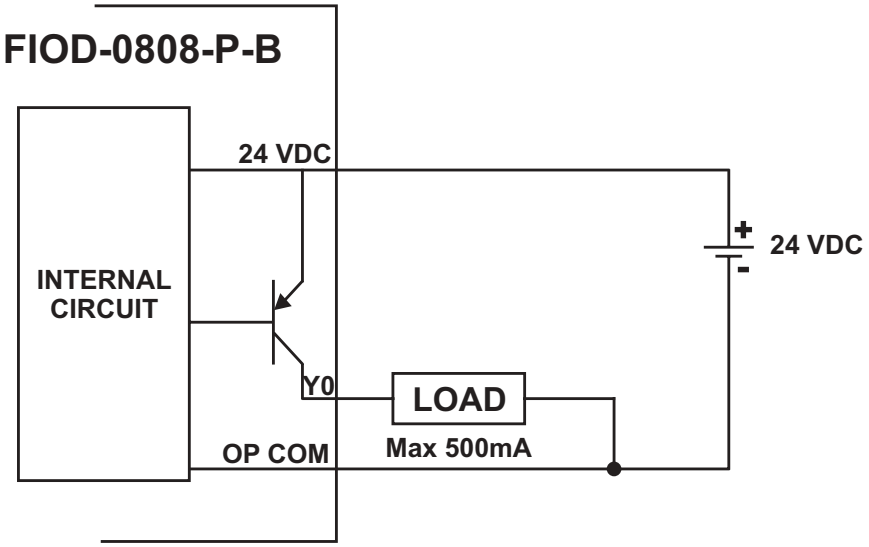
*L1 to L8 are A.C. Load.

Wiring Diagram: -
Transistor type Digital outputs should be wired as shown below

For FIOD-0808-C-B



For FIOD-0808-P-B



Notes:

MANUAL REVISION

If you contact us in reference to this manual, please include the following document number

Name : User Manual For FIOD0808
Part Number : URML403
Document : UMAN\FIOD-0808 10WAY\1106
Revision : 3

Revision Number	Document Number	Date	Description
Rev 1	UMAN\FIOD-0808 10WAY\1106	22-11-2006	Panel dimensions and port details are added.
Rev 2	UMAN\FIOD-0808 10WAY\1106	29-11-2006	Power supply, multidropping wiring added.
Rev 3	UMAN\FIOD-0808 10WAY\1106	04-01-2007	Communication timeout register is added.